‘**Data Pal**’ Web Application

Problem Definition: Telecommunication companies offer a range of mobile data packages to their customers, categorized based on various factors such as data allowance, validity period, and price. However, choosing the right package can be a complex and confusing task for consumers. As a result, customers may end up overpaying for data they don’t use or underpaying and running out of data before the end of the validity period. This can lead to mobile data wastage and additional costs. Due to the prevailing situation in Sri Lanka, where the cost of living is already high, the added expense of mobile data can be difficult to manage. This is particularly relevant as the education system shifts towards online platforms, increasing the need for reliable and affordable mobile data.

Background & Motivation: The COVID-19 epidemic has significantly altered the way we live, work, and learn. The shift toward online education has been one of the most noticeable changes. As a result, students must pay more for mobile data packages in order to attend their university classes. Even after physical classes start, students continue to pay for internet access, especially when they are off campus. This can be a major cost, particularly if students overpay for mobile data packages that they do not fully utilize. These experiences inspired us to identify and overcome the difficulties involved with selecting and using mobile data packages.

Solution :

Choosing the best mobile data package can be a daunting task for many people. There are numerous plans available, each with its own set of features and price ranges. It can be difficult to determine which plan is best for you, and you may end up overpaying or underpaying for your data requirements. Our app overcomes this problem by analyzing the user's mobile usage behavior and recommending a data plan that is personalized to their needs. Users can also manually enter their choices for their needs into the app to receive the most accurate recommendations. This application works by gathering information on the user's mobile usage patterns, such as the apps they use, the quantity of data they use, and the time of day they use data. The program then analyzes the data and looks for trends using machine learning algorithms. These patterns are then utilized to suggest a data package that is likely to fulfill the demands of the consumer. In addition, the app employs a fitness function to recommend the optimal mobile data plan for each user. The fitness feature considers the user's mobile usage habits, data package prices, and the user's budget. The fitness function is intended to maximize the user's pleasure with their data package while decreasing the package's cost. Aside from the machine learning and fitness functions, the app offers a user-friendly UI that makes it simple for consumers to use. The interface is intended to be simple and straightforward to use, allowing users to quickly and easily access the information they require. Overall, the application addresses the challenge of selecting the proper mobile data package by combining machine learning, a fitness feature, and a user-friendly UI. The application can recommend data packages that are tailored to the user's needs while also decreasing the package's cost.

App/Web overview: Data Pal is a web application and a mobile data package recommendation system that helps users find the best mobile data package for their needs. The system has two pricing plans: a free plan and a premium plan.

Free Plan : The free plan allows users to specify the amount of mobile data they need, the time period they need it for, and their budget range. The system then uses a fitness function to recommend a mobile data package or series of packages that meets the user's requirements at the lowest possible cost.

Premium Plan : The premium plan includes the features of the free plan, plus the ability to automatically detect the user's mobile data usage patterns on their Android device. The system then uses machine learning algorithms to learn the user's patterns and recommend a mobile data package that is tailored to their individual needs. The cost of the premium plan is cheap and based on annual payments.
Benefits: The mobile data package recommendation system offers a number of benefits to users, including:

- Saves time and money: The system helps users find the best mobile data package for their needs, which can save them time and money.
- Personalized recommendations: The premium plan uses machine learning algorithms to learn the user's mobile data usage patterns and recommend a package that is tailored to their individual needs.
- Easy to use: The system is easy to use and navigate. Users can simply specify their requirements and the system will recommend a mobile data package.

Uniqueness:The first mobile data package recommendation system in Sri Lanka that uses machine learning to provide personalized recommendations.
Saves users money, increases profits for mobile operators, and is easy to use.
Can accommodate a large number of users.

Implementation:The system would be implemented as a web application. The web application would be developed using a modern web development framework, such as React or Angular. The system would also use a machine learning library, such as TensorFlow or PyTorch, to generate personalized recommendations for the premium subscription features. The system would be deployed on a cloud platform, such as AWS or Azure. This would allow the system to scale to accommodate a large number of users. The development plan for the web application would include 3 stages. In the first stage, The system would be developed as a prototype. This would involve developing the fitness function and the basic user interface to give the best mobile data package or packages for the user preference. In the stage 2, the application should be further developed and improved with the usage of machine learning algorithms.

Marketing plans: At the final stage, Data pal would be launched and promoted to users. This would involve marketing the system to mobile operators and their customers.Data Pal would be marketed to mobile operators and their customers. Mobile operators would be interested in the system because it could help them increase their profits by selling more data. Customers would be interested in the system because it could help them save money by finding the best mobile data package for their needs. The system would be marketed through a variety of channels, including online advertising, word of mouth and partnered with mobile operators to promote the Data Pal to their customers. The advertising goals for the application would be to increase awareness of the system, generate leads from potential users who are interested in the application and drive traffic to the web where users can learn more about the system.This advertising goals would be measured by tracking the number of website visitors, leads generated, and sales made. The long term goals of this web application would be to become the first successful mobile data package recommendation system in Sri Lanka and create a profitable business that can generate revenue from advertising and subscriptions. We believe that the mobile data package recommendation system has the potential to be a successful business. The system is unique and solves a real problem for users and mobile operators. The system is also easy to use and scalable, making it a valuable tool for both users and mobile operators.